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**From:** Pero, Haley (Sanders) [Haley\_Pero@sanders.senate.gov]  
**Sent:** 7/19/2016 3:52:16 PM  
**To:** Brown, Rudy [Brown.Rudy@epa.gov]  
**Subject:** RE: Constituent inquiry: carbon monoxide regulations

Great — thanks, Rudy. I will take a look.

All the best,  
Haley

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**From:** Brown, Rudy [mailto:Brown.Rudy@epa.gov]  
**Sent:** Tuesday, July 19, 2016 11:51 AM  
**To:** Pero, Haley (Sanders) <Haley\_Pero@sanders.senate.gov>  
**Subject:** FW: Constituent inquiry: carbon monoxide regulations

Haley, below is the response to George regarding a constituent inquiry regarding carbon monoxide regulations. The incoming e-mail is also included. I hope this is helpful.

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**From:** Brown, Rudy  
**Sent:** Wednesday, April 20, 2016 2:37 PM  
**To:** George Twigg ([george.twigg@mail.house.gov](mailto:george.twigg@mail.house.gov)) <[george.twigg@mail.house.gov](mailto:george.twigg@mail.house.gov)>  
**Subject:** FW: Constituent inquiry: carbon monoxide regulations

George, I shared your e-mail with Ida McDonnell, Manager of Air Permits, Toxics and Indoor Programs Unit. EPA does not set indoor standards for carbon monoxide levels, and does not set standards for carbon monoxide alarms and residential furnaces.

I hope the clarifying information in Ida's e-mail is useful. Thanks.

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**From:** McDonnell, Ida  
**Sent:** Wednesday, April 20, 2016 1:00 PM  
**To:** Brown, Rudy <[Brown.Rudy@epa.gov](mailto:Brown.Rudy@epa.gov)>  
**Subject:** RE: Constituent inquiry: carbon monoxide regulations

Regarding your inquiry into specific EPA standards for carbon monoxide, EPA does not set indoor standards for carbon monoxide levels nor does it set standards for carbon monoxide alarms or residential furnaces.

**UL 2034 Standard for Carbon Monoxide Alarms**

The UL 2034 Standard for Carbon Monoxide (CO) Alarms was established by the Underwriters Laboratories (UL) that is a global independent safety science company. This standard was developed with input from the affected public and industry and more information on how the UL standards are developed can be found at the UL website at [www.ul.com](http://www.ul.com).

Most building code officials at the state or local levels prefer to require UL listed products therefore the UL2034 listed carbon monoxide alarms are more commonly available. These UL2034 listed carbon monoxide alarms are true alarms and if they sound off in a home, the residents should immediately move to the outside for fresh air since there is no time to determine the source of the carbon monoxide. For some individuals and sensitive subpopulations, the alarm may not provide protection for all CO health effects. CO health effects are dependent on both time and concentration as well as the health status of the individual. There are carbon monoxide monitors available to detect at much lower levels for CO but they do not carry the UL-2034 standard since their sensor signals at different and lower levels than the UL-2034 alarms.

### Regulation for CO Emissions from Small Furnaces

The Munchkin boiler is marketed as a compact residential boiler that is a sealed combustion appliance with a direct exhaust vent to the outside. This residential boiler uses either natural gas or propane so is not regulated under EPA wood boiler requirements and its BTUH is below EPA's regulatory requirements for industrial boilers. If there was exposure to indoor levels of carbon monoxide and the device is a sealed combustion chamber with a directed vent, it might be due to either incorrect installation or improper maintenance of the boiler and its vent. Installation and maintenance is not covered by EPA but is generally overseen by local code inspectional services.

If you have any further questions, please feel free to contact me or Marybeth Smuts at 617-918-1512

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**From:** Twigg, George [mailto:George.Twigg@mail.house.gov]  
**Sent:** Tuesday, April 19, 2016 10:23 AM  
**To:** Brown, Rudy <Brown.Rudy@epa.gov>  
**Subject:** Constituent inquiry: carbon monoxide regulations

Hi Rudy, looking forward to our call later today.

Separately, I have received a constituent inquiry related to EPA standards for carbon monoxide, in two separate areas:

1. Concerns that the UL 2034 standards for CO detectors aren't stringent enough to avoid all potential health impacts
2. Gaps in regulation for CO emissions from small furnaces – in this case, the constituent had a "Munchkin" furnace which apparently was regulated as an appliance, not a heating system, and thus wasn't subject to as stringent CO regulations as possible, resulting in him suffering from CO poisoning.

If you have staff who could assist me in understanding these issues a bit better, that would be helpful, thanks.  
GT

George Twigg  
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